

# FIGURE 1

1 ATGTCAGTGGGAGCCATGAAGAGGGAGTGGGGAGGGCAGTTGGGCTTGGAGGCGGCAGC 60  
61 GGCTGCCAGGCTACGGAGGAAGACCCCTTCCGACTCGGGGCTTGCCTCCGGGACAA 120  
121 GGTGGCAGGCGCTGGAGGCTGCCGAGCCCTGCGTGGTGGAGGGAGCTCAGCTCGGTTG 180  
181 TGGGAGCAGGCGACCGGCACTGGCTGGATGGACCTGGAAGCCTCGCTGCTGCCACTGGT 240  
241 CCCAATGCCAGCAACACCTCTGTATGGCCCCGATAACCTCACTTCAGCAGGATCACCTCCT 300  
301 CGACGGGAGCATCTCTACATCAACATCATGCTTCCGCTTCCGTCACCATCTGC 360  
361 CTCCTGGGCATCATCGGGAACCTCCACGGTCATCTTCGCGGTCGTGAAGAAGTCCAAGCTG 420  
421 CACTGGTGCAACAACGTCCCGACATCTTCATCATCAACCTCTCCTGGTAGATCTCCTC 480  
481 TTTCTCCTGGGCATGCCCTTTCATGATCCACAGCTCATGGGCAATGGGTGTGGCACTT 540  
541 GGGAGACCATGTGCACCCCTCATACGGCCATGGATGCCAATAGTCAGTTCACCAAGCAC 600  
601 TACATCCTGACCGCCATGGCCATTGACCGCTACCTGGCCACTGTCCACCCATCTCTCC 660  
661 ACGAAGTTCGGGAAGCCCTCTGTGGCCACCCCTGGTGATCTGCCCTCCTGTGGCCCTCTCC 720  
721 TTCAATCAGCATCACCCCTGTGTGGCTGTATGCCAGACTCATCCCTTCCCAGGAGGTGCA 780  
781 GTGGCTGCCGCATACGCCCTGCCCAACCCAGACACTGACCTCTACTGGTTCACCCCTGTAC 840  
841 CAGTTTTCCTGGCCTTTGGCCCTGCCCTTTTGTGGTCATCACAGCCGCATACGTGAGGATC 900  
901 CTGCAGCGCATGACGTCCCTCAGTGGCCCCCGCCTCCAGCGCAGCATCCGGCTGCGGACA 960  
961 AAGAGGGTGACCCGCACAGCCATCGCCATCTGTCTGGTCTTCTTGTGTGCTGGGCACCC 1020  
1021 TACTATGTGCTACAGCTGACCCAGTTGTCCATCAGCCGCCGACCTCACCTTGTCTAC 1080  
1081 TTATACAAATGCGGCCATCAGCTTGGGCTATGCCAACAGCTGCCCTCAACCCCTTGTGTAC 1140  
1141 ATCGTGCTCTGTGAGACGTTCCGCAACGCTTGGTCTGTGCGTGAAGCCTGCAGCCAG 1200  
1201 GGCAGCTTCGGCTGTTCAGCAACGCTCAGACGGCTGACGAGGAGGACAGAAAGCAAA 1260  
1261 GGCACCTGA 1269

[illegible][illegible]

# FIGURE 3 3/15

1 M S V G A M K K G V G R A V G L G G G S 20  
 21 G C Q A T E E D P L P D C G A C A P G Q 40  
 41 G G R R W R L P Q P A W V E G S S A R L 60  
 61 W E Q A T G T G W M D L E A S L L P T G 80  
 81 P N A S N T S D G P D N L T S A G S P P 100  
 101 R T G S I S Y I N I I M P S V F G T I C 120  
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 121 L L G I I G N S T V I F A V V K K S K L 140  
 II  
 141 H W C N N V P D I F I I N L S V V D L L 160  
 161 F L L G M P F M I H Q L M G N G V W H F 180  
 181 G E T M C T L I T A M D A N S O F T S T 200  
 III  
 201 Y I L T A M A I D R Y L A T V H P I S S 220  
 221 T K F R K P S V A T L V I C L L W A L S 240  
 IV  
 241 F I S I T P V W L Y A R L I P F P G G A 260  
 261 V G C G I R L P N P D T D L Y W F T L Y 280  
 V  
 281 O F F L A F A L P F V V I T A A Y V R I 300  
 301 L Q R M T S S V A P A S Q R S I R L R T 320  
 VI  
 321 K R V T R T A I A I C L V F F V C W A P 340  
 341 Y Y V L O L T O L S I S R P T L T F V Y 360  
 VII  
 361 L Y N A A I S L G Y A N S C L N P F V Y 380  
 381 I V L C E T F R K R L V L S V K P A A Q 400  
 401 G Q L R A V S N A Q T A D E E R T E S K 420  
 421 G T 422

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# FIGURE 4

1	GCAGGCGACCTGCACCGGCTGCATGATCTGCAAAACCTCGTTGCTGTCCACTGGCCCCCAA	60
61	TGCCAGCAACATCTCCGATGGCCAGGATAATCTCACATATGCCGGGTACCTCCTCGCAC	120
121	AGGGAGTGTCTCTACATCAACATCATATATGCCCTTCCGTGTTGGTACCATCTGTCTCCT	180
181	GGCATCGTGGAAACTCCACGGTCATCTTTGCTGTGGTGAAGTCCAAGCTACACTG	240
241	GTGAGCAACGTCCCCGACATCTTCATCATCAACCTCTCTGTGGTGGATCTGCTCTTCCT	300
301	GCTGGGCATGCCCTTTCATGATCCACAGCTCATGGGAACGGCTCTGGCACTTTGGGA	360
361	AACCATGTGCACCCCTCATCACAGCCATGGACGCCAACAGTCAGTTCAC TAGCACCTACAT	420
421	CCTGACTGCCATGACCATTTGACCGCTACTTTGGCCACCGTCCACCCCATCTCCTCCACCAA	480
481	GTTCCGGAAGCCCTCCATGGCCACCCCTGGTGATCTGCCCTCTGTGGCGCTCTCCTTCAT	540
541	CAGTATCACCCCTGTGTGGCTCTACGCCAGGCTCATTCCTTCCAGGGGTGTGTGGG	600
601	CTGTGGCATCCGCCCTGCCAAACCCGGACACTGACCTCTACTGGTTCACTCTGTACCAGTT	660
661	TTTCTCTGGCCCTTTGCCCTTCCGTTTGTGGTCATTACCGCCGCATACGTGAAATACTACA	720
721	GCGCATGACGTCTTCGGTGGCCCCAGCCTCCCAACGCAGCATCCGGCTTCGGACAAAGAG	780
781	GGTGACCCGCACGGCCATTGCCATCTGTCTGGTCTTCTTTGTGTGCTGGCACCCCTACTA	840
841	TGTGCTGCAGCTGACCCAGCTGTCCATCAGCCGCCCGACCCCTCACGTTTGTCTACTTGTA	900
901	CAACGCGGCCATCAGCTTTGGGCTATGCTAACAGCTGCCCTGAACCCCTTTGTGTACATAGT	960
961	GCTCTGTGAGACCTTTCGAAACGGCTTGGTGTTCAGTGAAGCCTGCAGCCCAAGGGCA	1020
1021	GCTCCGCACGGTCAGCAACGCTCAGACAGCTGATGAGGAGAGACAGAAAGCAAGGCAC	1080
1081	CTGACAATTCCCCAGTCGCCCTCCAAGTCAGGCCACCCCATCAACCCGTGGGAGAGATAC	1140
1141	TGAGATTAAACCCCAAGGCTACCCCTGGGAGAAATGCAGAGGCTGGAGGGCTTGTAG	1200
1201	CAACCACATTCCAC	1214

1	M	D	L	Q	T	S	L	S	T	P	G	P	N	A	S	N	I	S	D	G
21	Q	D	N	L	T	L	P	G	L	R	L	R	T	G	S	V	S	I	D	N
41	I	I	M	P	S	T	F	G	T	I	C	L	L	G	I	V	G	S	I	N
61	V	I	F	A	V	V	K	K	S	D	L	L	F	C	S	N	V	P	S	T
81	F	I	I	N	L	S	V	V	D	W	L	F	L	L	G	M	V	F	I	I
101	H	Q	L	M	G	N	G	V	F	T	L	F	E	L	T	C	F	M	I	T
1121	A	M	D	A	N	S	Q	H	T	I	S	T	I	L	M	A	P	T	I	D
1141	R	Y	L	A	T	V	L	P	P	A	S	S	K	F	R	K	P	S	M	A
1161	T	L	V	I	C	L	L	F	W	W	L	S	F	I	T	T	P	V	L	L
1181	Y	A	R	L	I	P	W	F	A	G	A	V	G	C	I	T	R	L	P	N
2201	P	D	V	I	L	L	A	Y	T	T	L	Q	F	F	L	A	F	S	L	P
2221	F	A	S	Q	T	R	A	I	V	V	K	I	R	M	T	S	S	V	A	P
2241	P	A	C	V	F	F	V	C	L	W	R	P	Y	V	L	R	T	A	I	A
2261	I	C	L	V	R	P	T	T	F	F	A	Y	Y	V	L	Q	L	Q	L	L
2281	S	I	S	R	P	T	L	N	P	F	V	Y	Y	N	L	A	I	S	L	G
3301	Y	A	N	S	C	L	N	P	P	F	V	Y	I	V	L	C	E	T	F	R
3321	R	L	V	L	S	V	K	P	A	E	S	Q	G	T	R	A	T	V	S	N
3341	Q	T	A	D	E	F	R	T	E	S	K	G	T	*						

# FIGURE 6

IP release in MCH1- and  
mock-transfected Cos-7 cells

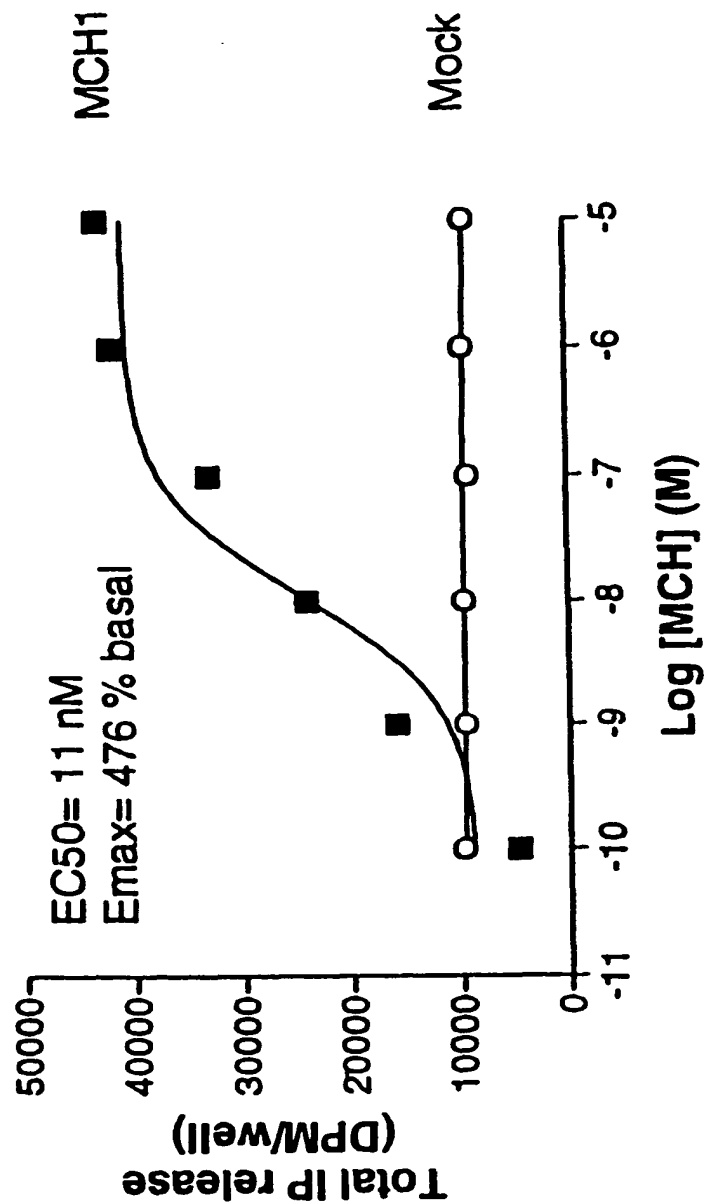


FIGURE 7A

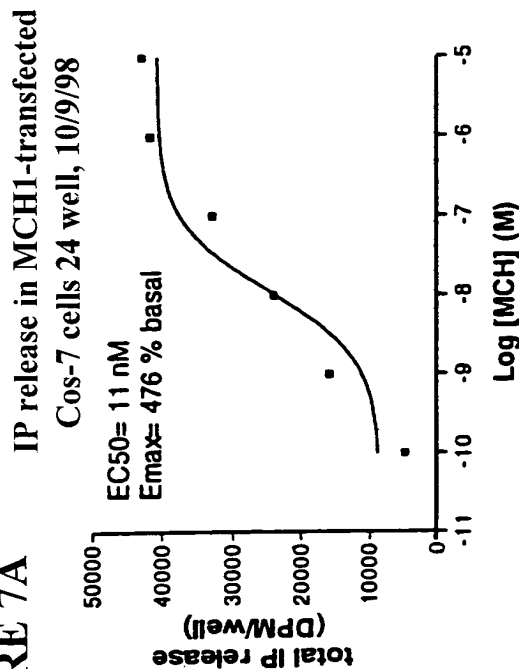


FIGURE 7B

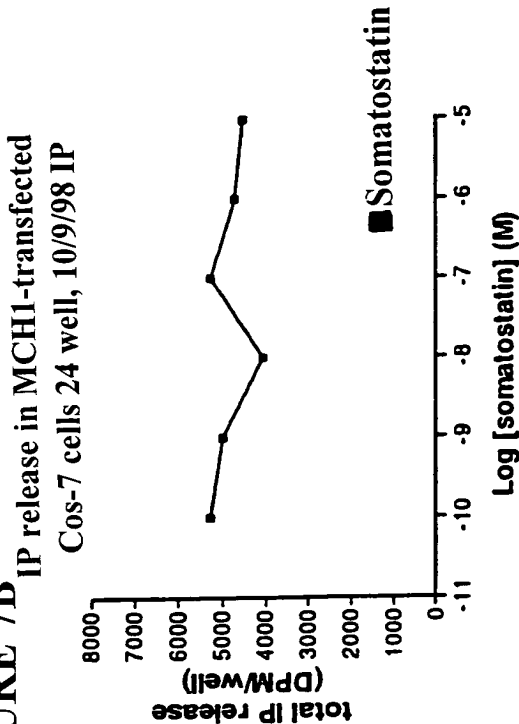


FIGURE 7C

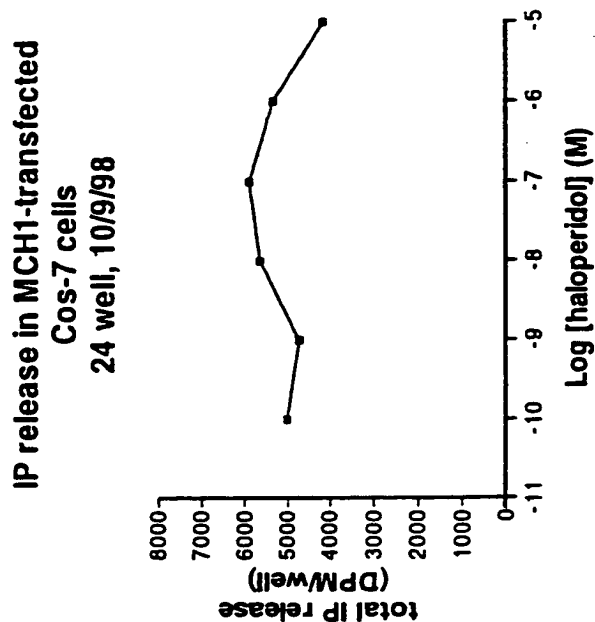
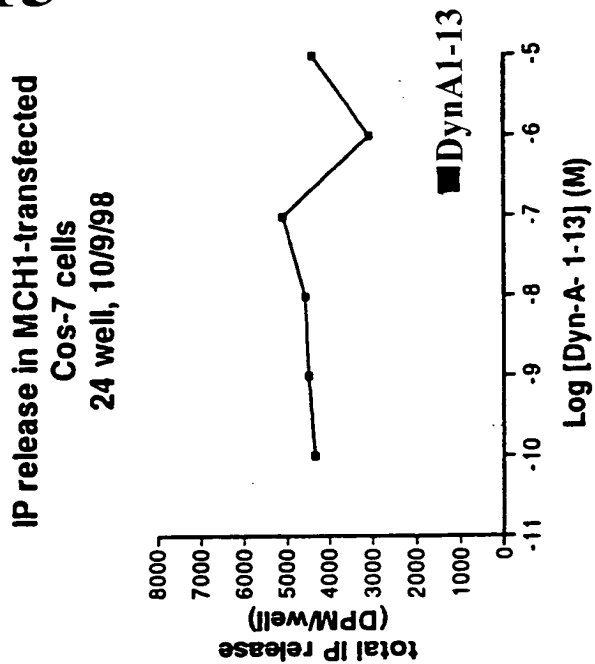


FIGURE 7D



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FIGURE 8A

Microphysiometer Response  
CHO cells

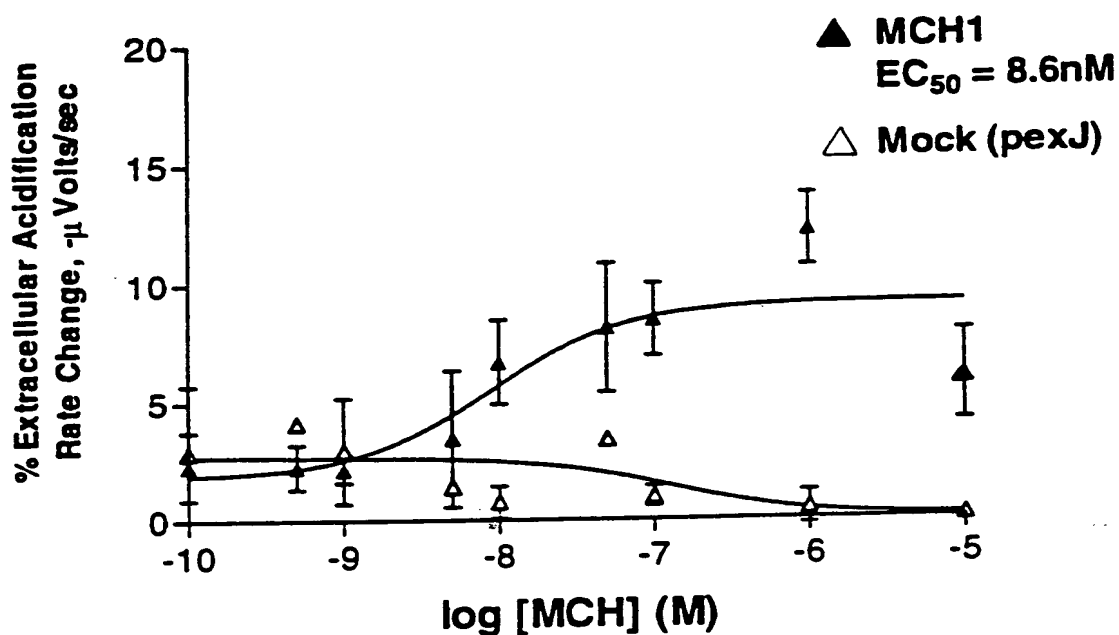
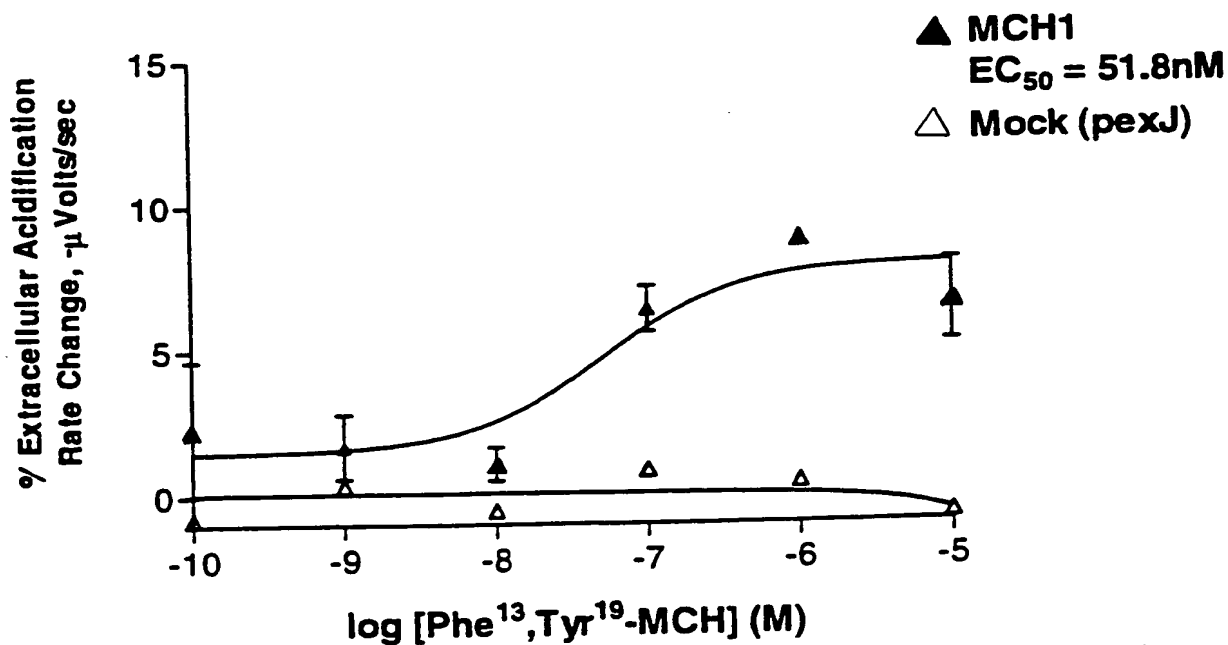


FIGURE 8B

Microphysiometer Response  
CHO cells





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# FIGURE 9

Agonist-Mediated c-fos- $\beta$ -gal  
Activity in Cos-7 Cells

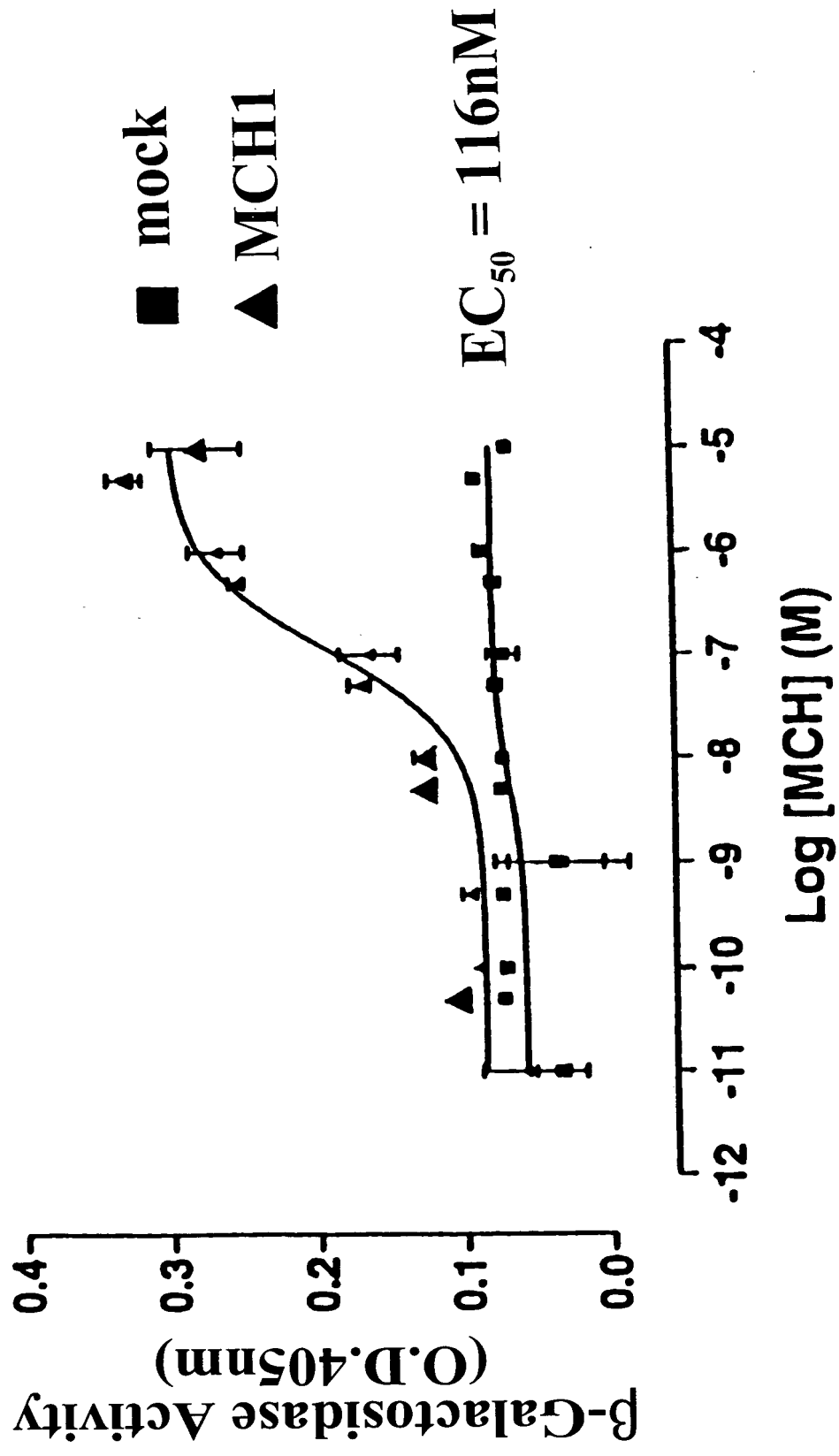


FIGURE 10A

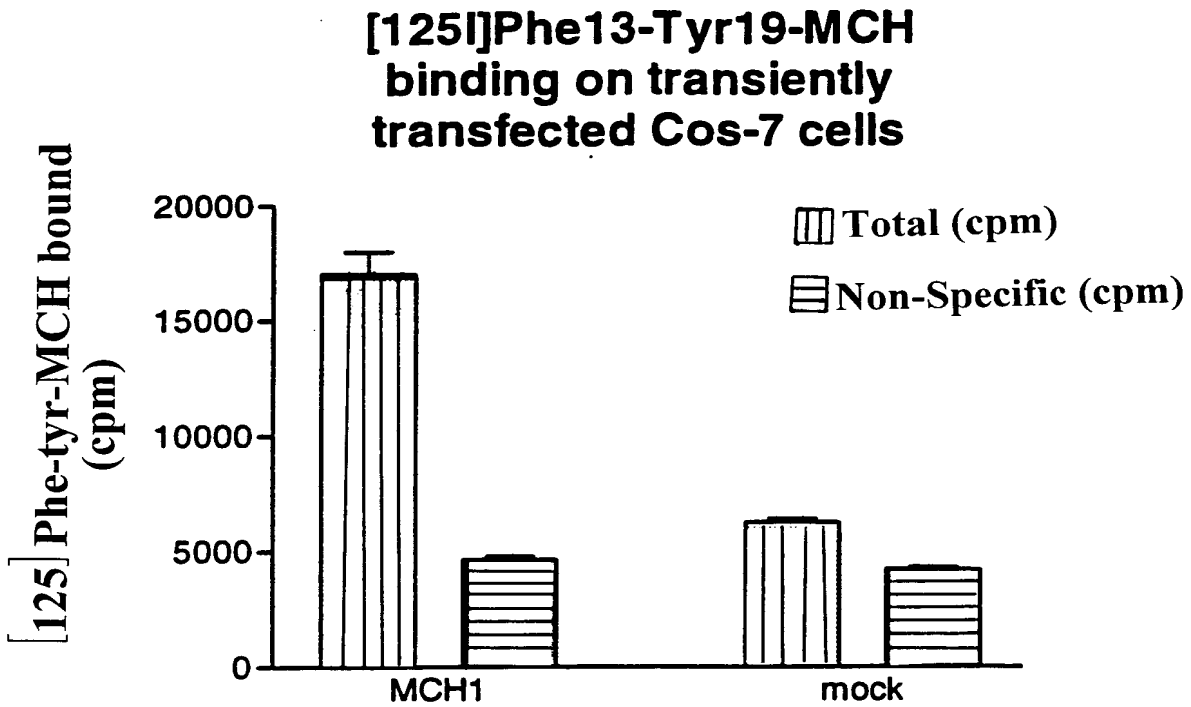
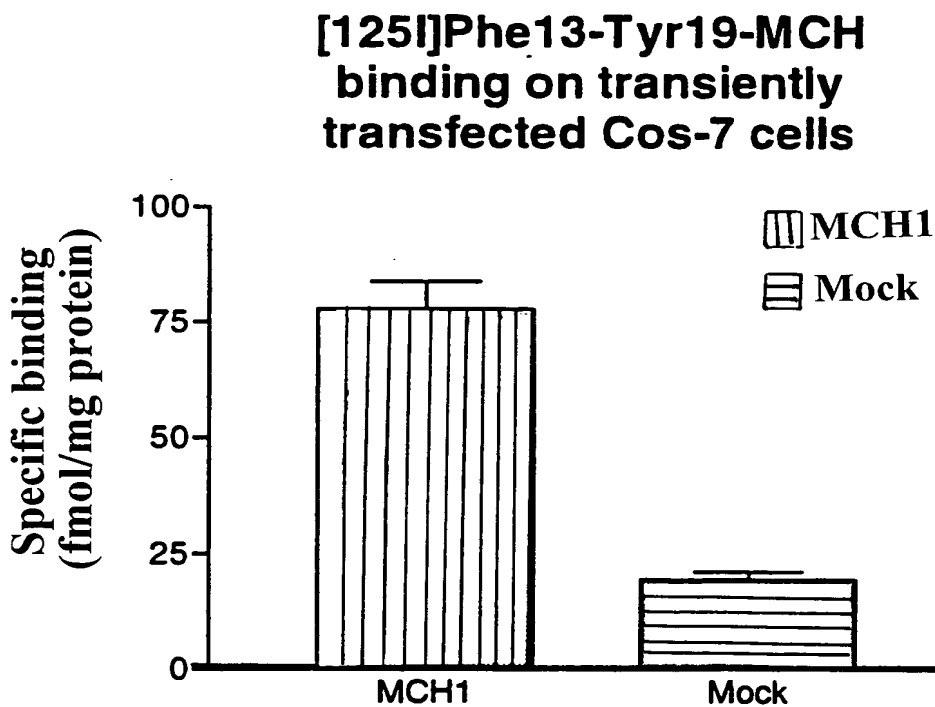
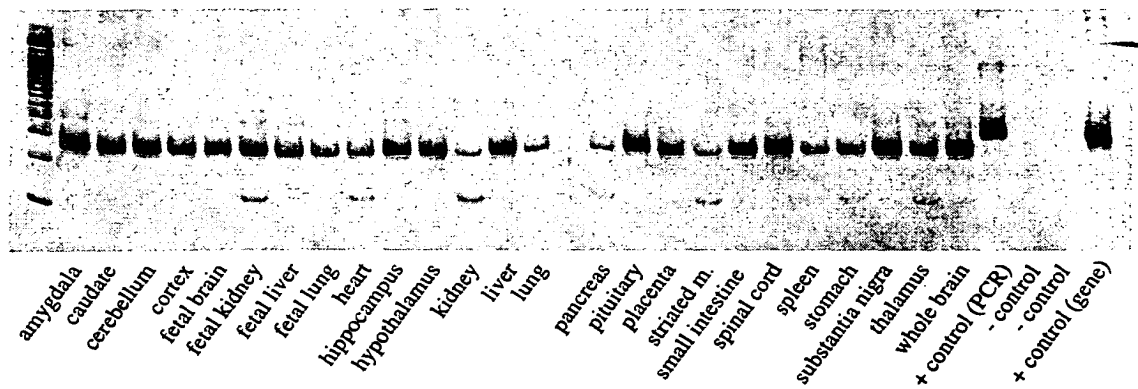


FIGURE 10B



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FIGURE 11



**FIGURE 12**

TL231	1	MSVGAMKKGV	GRAVGLGGGS	GCQATEEDPL	PDCGACAPGQ	40
R106		MSVGAMKKGV	GRAVGLGGGS	GCQATEEDPL	PDCGACAPGQ	
R114		MSVGAaKKGV	GRAVGLGGGS	GCQATEEDPL	PDCGACAPGQ	
BO120		~~~~~	~~~~~	~~~~~	~~~~~	

TL231	41	GRRRWRLPQP	AWVEGSSARL	WEQATGTGWM	DLEASLLPTG	80
R106		GRRRWRLPQP	AWVEGSSARL	WEQATGTGwa	DLEASLLPTG	
R114		GRRRWRLPQP	AWVEGSSARL	WEQATGTGwa	DLEASLLPTG	
BO120		~~~~~	~~~~~	~~~~~M	DLEASLLPTG	

TL231	81	PNASNTSDGP	100	DNLTSAGSPP...
R106		PNASNTSDGP		DNLTSAGSPP...
R114		PNASNTSDGP		DNLTSAGSPP...
BO120		PNASNTSDGP		DNLTSAGSPP...

FIGURE 13

1	M	S	V	G	A	M	K	K	G	V	G	R	A	V	G	L	G	G	S	20
21	G	C	Q	A	T	E	R	D	P	L	P	D	C	G	A	C	A	P	Q	40
41	G	G	R	A	T	E	L	P	Q	P	A	W	V	E	G	S	A	R	L	60
61	W	E	Q	A	T	G	T	G	W	A	D	L	E	A	S	L	P	T	G	80
81	P	N	A	S	N	T	S	D	G	P	D	N	L	T	S	A	G	S	P	100
101	R	T	G	S	I	S	Y	I	N	I	I	M	P	S	V	F	G	T	I	120
121	L	L	G	I	N	V	P	D	I	V	I	F	A	V	V	K	S	K	L	140
141	H	W	C	N	N	G	M	P	F	I	I	Q	L	N	L	S	V	D	L	160
161	F	L	L	G	M	P	F	M	I	H	Q	L	M	G	N	G	V	W	H	180
181	G	E	T	M	C	T	L	I	T	A	M	D	A	N	S	Q	F	T	S	200
201	Y	I	L	T	A	M	A	I	D	R	Y	L	A	T	V	H	P	I	S	220
221	T	K	F	R	K	P	S	V	A	T	L	V	I	C	L	L	W	A	L	240
241	F	I	S	I	T	P	V	W	L	Y	A	R	L	I	P	F	P	G	A	260
261	V	G	C	G	I	R	L	P	N	P	D	T	D	L	Y	W	F	T	L	280
281	Q	F	F	L	A	F	A	L	P	F	V	I	T	A	A	Y	V	R	I	300
301	L	Q	R	M	T	S	S	V	A	P	A	S	Q	R	S	I	R	L	R	320
321	K	R	V	T	R	T	A	I	A	I	C	L	V	F	F	V	C	W	A	340
341	Y	Y	V	L	Q	L	T	Q	L	S	I	S	R	P	T	L	T	F	V	360
361	L	Y	N	A	A	I	S	L	G	Y	A	N	S	C	L	N	P	F	V	380
381	I	V	L	C	E	T	F	R	K	R	L	V	L	S	V	K	P	A	Q	400
401	G	Q	L	R	A	V	S	N	A	Q	T	A	D	E	E	R	T	E	S	420
421	G	T																	422	

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FIGURE 14

1 M S V G A T E R G A A K K G V G R A V G L G G S 20  
 21 G C Q A R W T S I G N P F M I H Q L M G N G V V D L L 40  
 41 G G R A T G T S Y I N T I F A V V K S K L 60  
 61 W E Q A S N I G N P F M I H Q L M G N G V V D L L 80  
 81 P N A S N I G N P F M I H Q L M G N G V V D L L 100  
 101 R T G S I G N P F M I H Q L M G N G V V D L L 120  
 121 L L G I N V P F M I H Q L M G N G V V D L L 140  
 141 H W C N N V P F M I H Q L M G N G V V D L L 160  
 161 F L L G M P F M I H Q L M G N G V V D L L 180  
 181 G E T M C T L I D R Y L A T V L P F T S S 200  
 201 Y I L T A K P S V W L P P A I C L P F T S S 220  
 221 T K F I S G I R A F S S A I Q L G Y A Y V R I 240  
 241 F I S G I R A F S S A I Q L G Y A Y V R I 260  
 261 V G C F L A F S S A I Q L G Y A Y V R I 280  
 281 Q F F L A F S S A I Q L G Y A Y V R I 300  
 301 L Q R V L Q L A I S L G Y A Y V R I 320  
 321 K R V L Q L A I S L G Y A Y V R I 340  
 341 Y Y N A I S L G Y A Y V R I 360  
 361 L Y N A I S L G Y A Y V R I 380  
 381 I V L C E T F R K R L S V K P A Q 400  
 401 G Q L R A V S N A Q T A D E E R T E S K 420  
 421 G T

## FIGURE 15

1	M	D	L	E	A	S	L	L	P	T	G	P	N	A	S	N	T	S	D	G	20
21	P	D	N	L	T	S	A	G	S	P	P	R	T	G	S	I	S	Y	I	N	40
41	I	I	M	P	S	V	F	G	T	I	C	L	H	L	G	I	I	G	N	S	60
61	V	I	F	A	V	V	K	K	S	K	L	H	L	C	N	N	V	P	D	I	80
81	F	I	I	N	L	S	V	V	D	L	L	F	L	L	G	M	P	F	M	I	100
101	H	Q	L	M	G	N	G	V	W	H	F	G	E	T	M	C	T	L	I	T	120
121	A	M	D	A	N	S	Q	F	T	S	T	Y	I	L	T	A	M	A	I	D	140
141	R	Y	L	A	T	V	H	P	I	S	S	T	K	F	R	K	P	S	V	A	160
161	T	L	V	I	C	L	L	W	A	L	S	F	I	S	I	T	P	V	W	L	180
181	Y	A	R	L	I	P	F	P	G	A	V	G	C	G	I	R	L	P	N	200	
201	P	D	T	D	L	Y	W	F	T	L	Y	Q	F	F	L	A	F	A	L	P	220
221	F	V	V	I	T	A	A	Y	V	R	I	L	Q	R	M	T	S	S	V	A	240
241	P	A	S	Q	R	S	I	R	L	R	T	K	R	V	T	R	T	A	I	A	260
261	I	C	L	V	F	F	V	C	W	A	P	Y	Y	V	L	Q	L	T	Q	L	280
281	S	I	S	R	P	T	L	T	F	V	Y	L	Y	N	A	A	I	S	L	G	300
301	Y	A	N	S	C	L	N	P	F	V	Y	I	V	L	C	E	T	F	R	K	320
321	R	L	V	L	S	V	K	P	A	Q	G	Q	L	R	A	V	S	N	A	340	
341	Q	T	A	D	E	E	R	T	E	S	K	G	T							353	